



ILLINOIS COMMERCE COMMISSION PIPELINE SAFETY PROPOSED RULES



OBJECTIVES



Explain PHMSA's Proposed Rules for:

- Excess Flow Valves
- Incident Report Time
- OQ Changes
- Excluding Farm Taps from DIMP
- Drug and Alcohol Testing
- In Service Welding
- Plastic Pipe

EXCESS FLOW VALVES (DOCKET NO. PHMSA-2011-0009)



Propose to include:

- New or replaced branched service lines,
- Multi family residences
- Small commercial entities consuming volumes not exceeding 1,000 (SCFH)

EXCESS FLOW VALVES (DOCKET NO. PHMSA-2011-0009)



Propose to include:

- New/replaced service lines with meter capacities exceeding 1,000 (SCFH)
- Require additional service line valve (e.g., curb valves)
- Curb valves best alternative to an EFV and will add level of safety.

EXCESS FLOW VALVES (DOCKET NO. PHMSA-2011-0009)



Propose to include:

- Customer right to request EFV on new/ replaced service lines
- Costs associated with EFV installation
- **Must Notify Customers of this right with in 90 days**

EXCESS FLOW VALVES (DOCKET NO. PHMSA-2011-0009)

Motives for Change

- July 7, 1998 South Ridge Virginia residential gas explosion (one death and three injuries)
- PHMSA believes a EFV would have mitigated the explosion



EXCESS FLOW VALVES (DOCKET NO. PHMSA-2011-0009)

Motives for Change

- 3/4-inch polyethylene
- Natural gas pipeline



EXCESS FLOW VALVES (DOCKET NO. PHMSA-2011-0009)

Motives for Change

- June 22, 2001 NSTB recommendation P-01-2 require EFV in all new/renewed service lines regardless of customers classification.



EXCESS FLOW VALVES (DOCKET NO. PHMSA-2011-0009)

Motives for Change

- Since the 1998 incident NTSB investigated 8 additional incidents which resulted in 10 fatalities
- Most recent incident was in 2012 in Springfield, Massachusetts (21 people injured 40 buildings damaged)



EXCESS FLOW VALVES (DOCKET NO. PHMSA-2011-0009)

Motives for Change

- All of the 8 incidents since the 1998 incident that NTSB investigated would have been affected by these proposed rules.



INCIDENT REPORTING TIME (DOCKET NO. PHMSA -2013-0163)



- Proposed to change incident reporting time not later than **ONE** hour after confirmed discovery



INCIDENT REPORTING TIME (DOCKET NO. PHMSA -2013-0163)



- *Confirmed discovery* means there is sufficient information to determine that a reportable event may have occurred even if an evaluation has not been completed



EXPANDING OQ (DOCKET NO. PHMSA-2013-0163)



- Proposed to expand existing OQ requirements to cover new construction and previously excluded operations and maintenance tasks



EXPANDING OQ (DOCKET NO. PHMSA-2011-0163)



Current Regulation

- Under the current regulation, a covered task is an activity, defined by the operator that meets the 4-part test:
 - (1) Is performed on a pipeline facility;
 - (2) Is an operations or maintenance task;
 - (3) Is performed as a requirement of this part; and
 - (4) Affects the operation or integrity of the pipeline

EXPANDING OQ (DOCKET NO. PHMSA-2011-0163)



Proposed

- Define covered tasks clearer
- By eliminate confusion over whether performance based tasks are “performed as a requirement of this part.”

EXPANDING OQ (DOCKET NO. PHMSA-2011-0163)



Proposed

- This proposed rule includes two new requirements:
 - (1) Includes OQ requirements for new constructions by changing the Scope
 - (2) adds a new program effectiveness requirement to ensure that operators complete a review of the effectiveness of their OQ program

EXPANDING OQ (DOCKET NO. PHMSA-2011-0163)



Proposed I. Changing OQ Scope

- Change the scope of the OQ rule in 192.801 to revise the method of determining a “covered task.”
- OMIT 4 Part Test
- **Define a covered task as any maintenance, construction or emergency response task the operator identifies as affecting the safety or integrity of the pipeline facility.**

EXPANDING OQ (DOCKET NO. PHMSA-2011-0163)



2. Proposed General

- Update the “General” section of 192.809 to remove the implementation dates that no longer affect the implementation requirements for operators.

3. Proposed General

- Deleting an obsolete date for training requirements
- Clarify the need for training individuals performing covered tasks

EXPANDING OQ (DOCKET NO. PHMSA-2011-0163)



3. Proposed

- New requirement for evaluators of individuals performing covered tasks
- Including training requirements for new construction tasks

4. Proposed

- Add a “Program Effectiveness” requirement at 192.807
- To ensure that operators complete a review of the effectiveness of their OQ program

EXPANDING OQ (DOCKET NO. PHMSA-2011-0163)



5. Proposed

- Add record requirements in 192.809
- Include records that document evaluators' performance and program effectiveness.

6. Proposed

- Add a new subparagraph in the "Qualification Program" section as 192.805(b)(7) proposing requirements addressing management of change and the communication of those changes.

FARM TAPS

(DOCKET NO. PHMSA-2013-0163)



- Excluding farm taps from requirements from DIMP by amending 192.1003
- Would require inspection of farm-tap pressure regulating/limiting device, relief device, and automatic shutoff device every 3 years to insure good working condition by adding 192.740



DIMP WITHOUT FARM TAPS

(DOCKET NO. PHMSA-2013-0163)



Motives for Change

- Farm taps are mostly located in less populated areas (Class 1 and 2 locations).
- Low risk but
- Risk is dependent upon:
 - The service
 - The environment
 - The consequence of a over pressurization event.



DRUG AND ALCOHOL

(DOCKET NO. PHMSA-2013-0163)



Proposed

- Require electronic reporting of drug and alcohol testing when provided notice through the PHMSA portal
- For operators of fewer than 50 covered employees amending 199.119 and 199.229
- Modify criteria used to make decisions about conducting post accident drug and alcohol test and
- Retain these records for 3 years amending 199.105 and 199.225

DRUG AND ALCOHOL

(DOCKET NO. PHMSA-2013-0163)



Motives for Change

- NISTB recommended to PHMSA
- To eliminate operator discretion with testing covered employees and amend 199.105 and 199.225 to
- Require covered employees whose performance could not be completely discounted as a contributing factor

IN SERVICE WELDING (DOCKET NO. PHMSA-2013-0163)



Proposed

- Adding reference to Appendix B of API 1104 related to in-service welding to allow in-service welding which would revise 192.225 and 192.227



IN SERVICE WELDING (DOCKET NO. PHMSA-2013-0163)



- API 1104 Appendix B
 - Considers the risks associated with hydrogen in the weld
 - Metal type of welding electrode
 - Sleeve/fitting
 - Carrier pipe materials
 - Accelerated cooling, and stresses across the fillet welds.



IN SERVICE WELDING (DOCKET NO. PHMSA-2013-0163)



Motives for Change

- 1987 US DOT advised operators about a incident involving the welding of a full encirclement repair sleeve on a 14" APL X52 pipeline near King of Prussia, PA.
- Released 1,000 barrels of gasoline

IN SERVICE WELDING (DOCKET NO. PHMSA-2013-0163)



Motives for Change

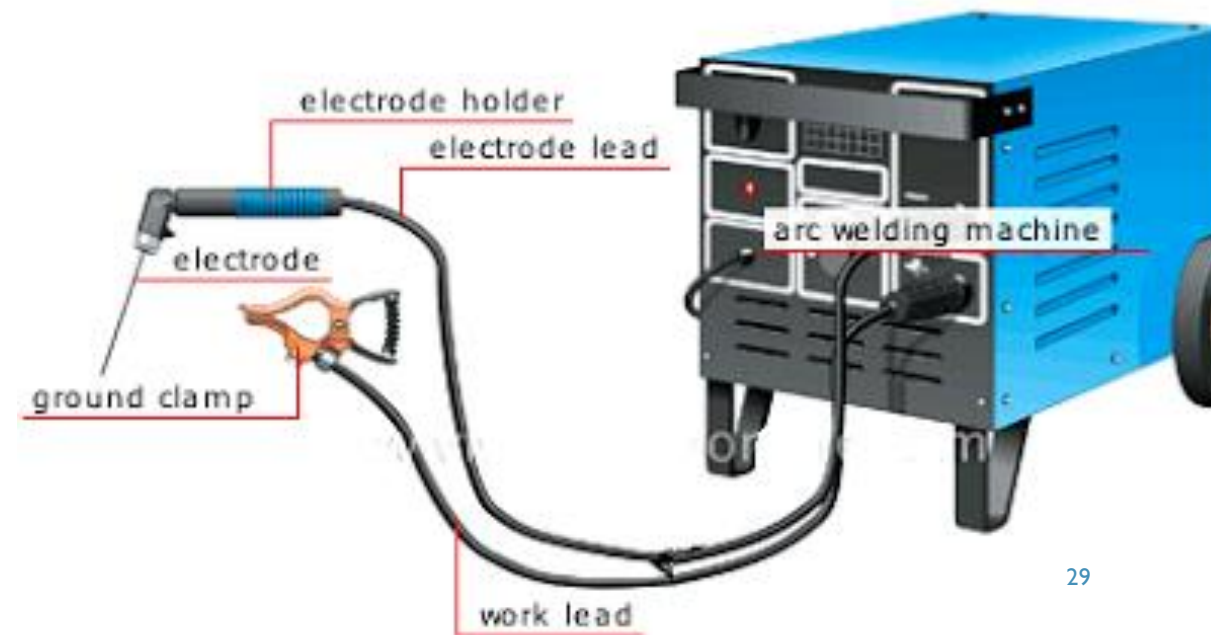
- Battelle Laboratories concluded hydrogen and stress caused cracking
- Poor weldability due to high carbon, high cooling rate due to liquid product in the pipe

IN SERVICE WELDING (DOCKET NO. PHMSA-2013-0163)



Motives for Change

- The alert strongly recommended to discontinue to the use of similar welding procedures that failed (use of cellulosic electrodes)
- Thus API 1104 Appendix B was born!!



IN SERVICE WELDING (DOCKET NO. PHMSA-2013-0163)



- But PHMSA forgot to add Appendix B.
- Currently, PHMSA does not allow in service welding, but this proposal would allow the operators to follow Appendix B of API 1104 for in service welding

PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Proposed Plastic Objectives

- Tracking and Traceability
- Design Factor
- Use of PA-11/12
- Risers
- Fittings
- Installation
- Repairs



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Tracking Proposed

- Add definition in 192.3
- Methods to Identify:
 - Location of Pipe
 - Person who joined the Pipe
 - Components within the Pipe



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Traceability Proposed

- Add definition in 192.3
- Identify and Document:
 - Location of pipe manufacture, production, and lot
 - Pipe size, material, pressure rating, grade, etc...



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Motives for Change

- NAPSIR recommendation
- Due to incidents with:
 - Incorrect data
 - Missing data
 - Markings rubbing off
 - Operators unable to locate failing components



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Design Factor Proposed

Increase from current 0.32 to 0.40 for pipe other than PA-11

if:

- Pipe is produced after July 14, 2004
- Design pressure of 125 PSI.
- PE2708 or PE4710
- Has a nominal size (IPS or CTS) of 12 inches or less; and
- Thickness of outside diameter is not less than (see next slide)

PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Pipe size in inches	Minimum wall thickness in inches	Corresponding DR values	Pipe size in inches	Minimum wall thickness in inches	Corresponding DR values
1/2" CTS ..	0.090	7	3/4" CTS ..	0.090	9.7
			1/2" IPS	0.090	9.3
			3/4" IPS	0.095	11
			1" IPS	0.119	11
			1 1/4" IPS ..	0.151	11
			1 1/2" IPS ..	0.173	11
			2"	0.216	11
			3"	0.259	13.5
			4"	0.265	17
			6"	0.315	21
			8"	0.411	21
			10"	0.512	21
			12"	0.607	21

PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Design Factor Summary

Increased Design Factor

=

Increased Design Pressure

=

Increased MAOP



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Motives for Change

- Petition from American Gas Association
- Gas Technology Institute performed justifications



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Risers Proposed

- Design and Construction of Risers
- incorporate by reference ASTM F1973
- ASTM F1973 address:
 - Removal of burrs on metal components



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Motives for Change

- 2014 Petition from GPTC
- GPTC presented their case to PHMSA
- PHMSA agreed



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Proposed Fittings

Use only mechanical fittings or joints that

- Designed and tested to provide a seal
- Plus resistance to lateral forces so that a large force on the connection would cause the pipe to yield before the joint does

Motives for Change

PHMSA and others (e.g., NTSB and certain States)

- Have observed problems with mechanical fittings or joints becoming loose
- Pipe being pulled out from fittings,
- Leading to leaks
- In certain cases, incidents.

PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Proposed Fittings

To require fittings that do not demonstrate by:

- Testing
- Investigation
- Experience in that area of application, that adequate corrosion control is provided

Electrically Isolated Metal Alloy Fittings (Section 192.455)

- Add a new paragraph (g) to require such fittings used within plastic pipelines be cathodically protected and monitored

PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Plastic Pipe Installation (8 new Requirements)

I. Trenchless Excavation:

- Must insure path of excavation
 - Maintain enough clearance from other structures (foreign)
- Must have “weak link”

PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



THIS IS WHY!!!→→→



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



2. Joining of Plastic Pipe

- Revise 192.281(b)(2) to specify solvent cement apply only to polyvinyl chloride (PVC) pipe.
- Add a new paragraph (e)(3) to require fittings used to make a mechanical joint meets a listed specification.

Motives for Change

- To help clarify
- To help eliminate inconsistencies in the industry

PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



3. Qualifying Joining Procedures

- Add newer version of ASTM D2513
- Add standards for of thermoplastic pipe (i.e., PA-11, and PA-12).
- Eliminate ability to use fitting manufactured after July 1, 1980

Motives for Change

- As technology and materials advance so must the code!

PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



4. Qualifying Persons

- Remove 192.285(b) qualify testing procedures and add reference ASTM F2620–12
- Require operators to maintain records:
 - Location of each joint
 - Person who made the joint.

Motives for Change



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Motives for Change



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



5. Bends

- Add 192.313(d) to specify that installed plastic pipe may not contain bends that exceed the maximum radius specified



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Mitered Joint Fabrication

PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Motives for Change

- Steel pipe already has the requirement
- Common sense says plastic pipe should too.



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



6. Installing of Plastic Pipe

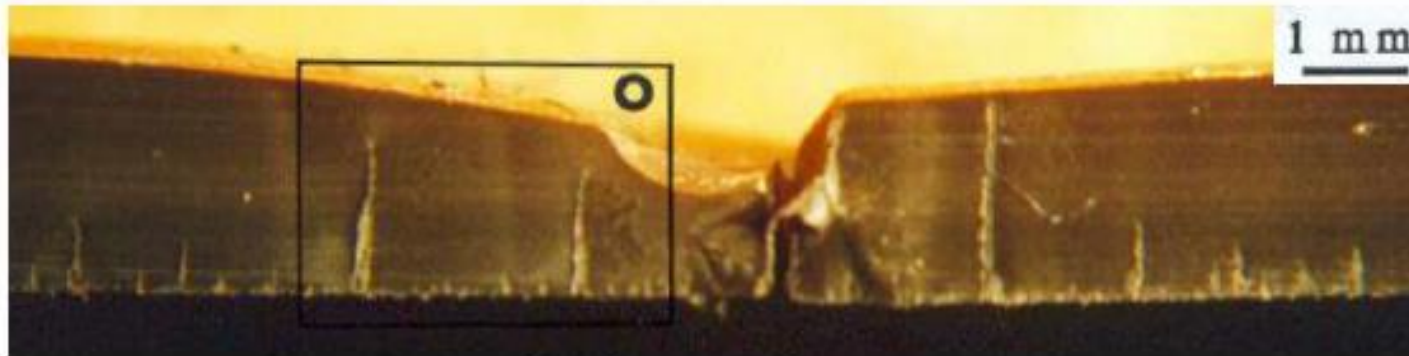
- Change 192.321(d) to specify that **all plastic pipe** must be .09 inches thick
- Change 192.321(f) to specify protect both ends in a casing
- Add 192.321(i) & 192.375 (c) for backfill requirements
- Add 192.321(j) to allow aboveground plastic mains in certain situations

Motives for Change

Failure Due to Mechanical Stress



a) General view.



b) Axial cross section.

Failure of polybutylene pipe due to rock impingement

PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



7. Service Lines Connection to Main

- Add 192.367(b)(3) to specify that service lines connected to the main must have Category I connection:
 - A seal plus resistant force
 - Cause no less than 25% elongation
 - Or pipe fails outside of joint



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



8. Equipment Maintenance for Joining

- Add 192.756(b)(3) to maintain equipment to manufactures' recommendations or accepted alternatives:
 - Measuring devices for joining
 - Calibrate Equipment
 - Fusion equip., facing, alignment, heater plate, gauging devices,... etc.

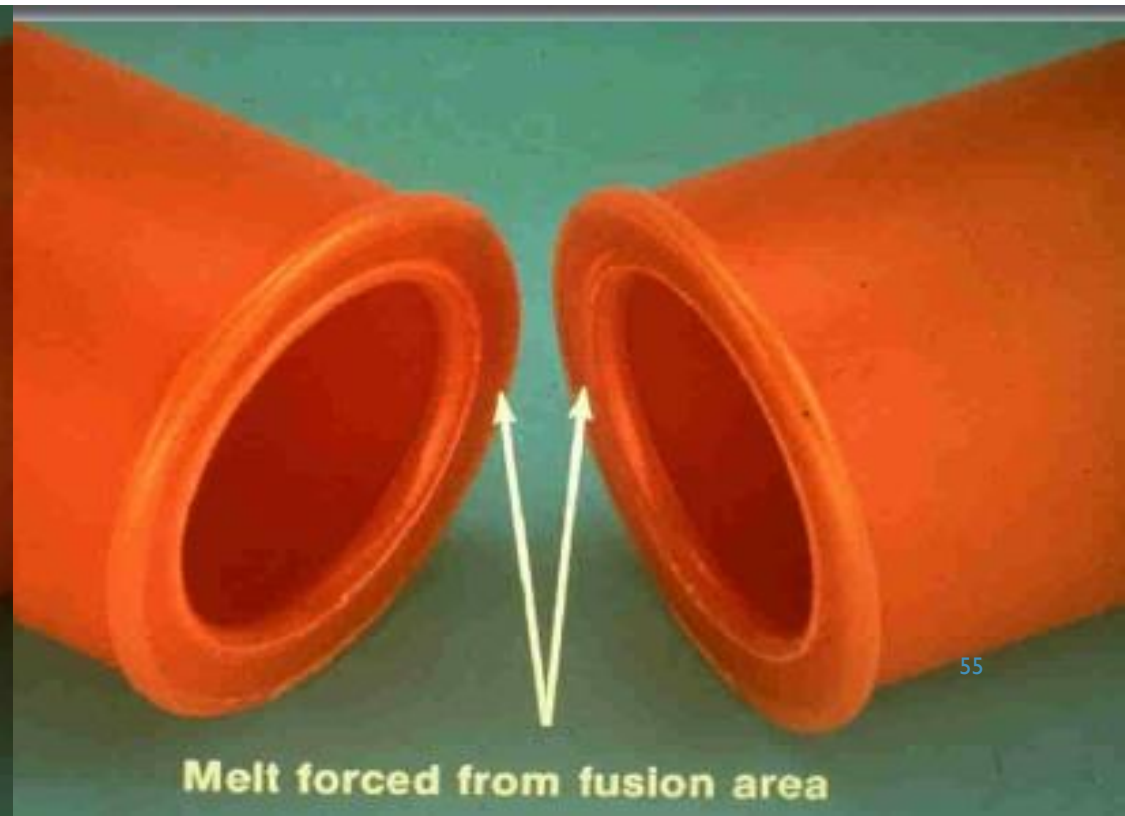


PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



Motives for Change

- Difficult to assess the quality of field joints.



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



8. Repairs (Gouges)

- Change 192.311 to replace plastic pipe and components with scratch's and gouges exceeding 10 % of the wall thickness:
- Motive for Change
 - For consistency with industry best practices



PLASTIC PIPE (DOCKET NO. PHMSA-2014-0098)



8. Repairs (Leak Clamps)

- New I 92.720 leak-clamps cannot be used as permanent repair
- Motive for Change
 - Stainless steel band clamps ARE intended and designed for temporary repairs only



HOW TO ADDRESS COMMENTS AND CONCERNS



- Comments should reference Docket No. PHMSA–XXXX–XXXX and may be submitted in the following ways:
 - E-Gov Web site: <http://www.regulations.gov>
 - Fax: 202–493–2251.
 - Mail: Docket Management System: U.S. Department of Transportation (DOT), Docket Operations, M–30, Room W12–140, 1200 New Jersey Avenue SE., Washington, DC 20590–0001.

QUESTIONS???

